

## CITY OF TEMPE

### ENVIRONMENTAL SERVICES DIVISION

#### Accidental Discharge/Slug Control Plan

**Background:** The primary concern of the City of Tempe Environmental Services Section is minimizing the likelihood of spills or slug loads of hazardous materials from reaching the sewer systems and creating a public hazard. Sewer systems and the Valley's wastewater treatment plant were not designed or built to accept hazardous materials, and is protected by federal law (40 CFR 403.5) from receiving them. But in reality, law can not protect the sewers and the treatment plant; only people can.

The development and implementation of a good accidental discharge/slug control plan will not only help your facility avoid costly spill fines and cleanup cost, but will help your facility in many other ways. Listed here are some of the benefits of such a plan:

- A. Reduction or elimination of fines
- B. Reduction or elimination of legal actions
- C. Improved incident/accident statistics
- D. Reduction of environmental hazards
- E. Improved staff health and safety
- F. Reduction of liabilities (insurance)
- G. Reduced business interruptions
- H. Improved regulatory relations
- I. Improved environmental compliance record
- J. Improved publicity with staff and community
- K. Greater staff awareness
- L. Reduced losses to waste
- M. Greater control of your facility's processes
- N. Comfort and security

Items of focus in our evaluation of your plan are:

1. The types and quantities of chemicals that are handled, stored, and disposed of on-site.
2. The location(s) of all chemical handling, storage, and disposal activities with respect to sewer access. The chemicals managed in the areas of highest risk of being discharged to the sewers (through spills, slug, loading, or accidents) should be of the highest priority to be addressed in your plan.

**ACCIDENTAL DISCHARGE/SLUG CONTROL PLAN**

Facility Name: \_\_\_\_\_

Address: \_\_\_\_\_

Person to contact about this plan: \_\_\_\_\_

Title: \_\_\_\_\_ Phone: \_\_\_\_\_

Facility Manager: \_\_\_\_\_ Phone: \_\_\_\_\_

**Emergency Contact Person**

**Day Phone**

**Night Phone**

Primary: \_\_\_\_\_

Secondary: \_\_\_\_\_

Alternate: \_\_\_\_\_



Does your facility have over 55 gallons, or 500 pounds, or 200 cubic feet of hazardous material on-site at any one time?

Yes  No

Has this facility filed a hazardous material plan with Maricopa County?

Yes  No  In Progress  N/A

Does this facility generate any hazardous waste?

Yes  No

If yes, what disposal methods do you use: (check all that apply)

Sent to recycler  Sent to hazardous waste facility  
 Reprocess waste  Treatment on-site  
 Sewers  Used as fuel  
 Trash  Other (describe) \_\_\_\_\_

Does your facility have any other environmental permits (i.e. Air Quality, NPDES, Transporters, TSD, etc.)?

Yes  No  If yes, please list:

Type: \_\_\_\_\_ Number: \_\_\_\_\_ Given By: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Does your facility have an automatic fire sprinkler system?

Yes  No

## **PART II**

### **Hazardous Material Storage Inventory**

Enclosed is a form for you to copy and use to inventory your chemical storage. For each type of hazardous material, fill out and complete the form. More than one form may be necessary for each material if it is stored in more than one place or comes in various sized containers. It is not necessary to list prepackaged consumer items such as cans of WD-40, spray paint, or the like. Also ignore minor items and quantities (under 5 gal., etc.) unless they are particularly hazardous items (mercury, etc.). Items may be grouped if they are basically the same things but with only minor differences (i.e., oils, paints, inks, fuels, etc.).

**CITY OF TEMPE ENVIRONMENTAL SERVICES SECTION**

**Hazardous Material Storage Checklist**

Name of Material: \_\_\_\_\_

Type:           Solid \_\_\_\_\_           Liquid \_\_\_\_\_           Gas \_\_\_\_\_

Check all that apply:           Flammable \_\_\_\_\_           Corrosive \_\_\_\_\_

          Oxidizer \_\_\_\_\_           Explosive \_\_\_\_\_           Radioactive \_\_\_\_\_

          Water Reactive \_\_\_\_\_           Pyrophoric \_\_\_\_\_           Compressed Gas \_\_\_\_\_

          Organic Peroxide \_\_\_\_\_           Unstable (Reactive) \_\_\_\_\_

Storage:   Number of containers \_\_\_\_\_           Container size(s) \_\_\_\_\_

          Container type \_\_\_\_\_           Container condition \_\_\_\_\_

          Total amount on hand \_\_\_\_\_

          Exact location of material \_\_\_\_\_

MSDS on file:	Yes _____	No _____	
Safety info posted:	Yes _____	No _____	
Warning signs posted:	Yes _____	No _____	
Spill protection needed:	Yes _____	No _____	N/A _____
Spill procedures posted:	Yes _____	No _____	N/A _____
Fire protection needed:	Yes _____	No _____	N/A _____
Housekeeping problems:	Yes _____	No _____	
Manifest on file:	Yes _____	No _____	N/A _____
Exposed to sun/weather:	Yes _____	No _____	
High people traffic:	Yes _____	No _____	
Evidence of spillage:	Yes _____	No _____	
Close to drains:	Yes _____	No _____	

Other notes (physical hazards, close to electric, etc.) \_\_\_\_\_

Follow-up required:           Yes \_\_\_\_\_           No \_\_\_\_\_

Date: \_\_\_\_\_           Inspected by: \_\_\_\_\_

## **PART III**

### **Facility Layout and Flow Diagrams**

Attach drawings (suggested no larger than 36" x 50") of the facility which shows the following:

- General facility layout
- Property boundaries
- Entrance and exit routes
- Identify activities in each area (i.e. office, storage, manufacturing, etc.)
- Handling and storage area for hazardous materials
- Loading and unloading areas
- Hazardous waste handling, storage, and treatment areas
- Floor drains, drainage channels, sewer inlets, sumps, etc.
- Directions of drainage
- Liquid storage tanks with holding capabilities
- Dikes, berms, secondary containment, etc. (See Part IV)

Please provide a narrative discussion where it is needed to clarify any of the above items.

## **PART IV**

### **Spill and Leak Prevention Equipment and Procedures**

#### **Equipment:**

Identify the location and provide a description of all spill prevention structures and equipment used (i.e. dikes, berms, sealed drains, alarms, diversion structures, secondary containment, leak detection equipment, etc.).

Note the locations of these on the drawing of Part III.

#### **Procedures:**

Discuss all routine operations and maintenance procedures geared to minimize spills and leaks at your facility. Include descriptions of the type and frequency of inspections and monitoring for leaks or other conditions that could lead to spills.

## **PART V**

### **Emergency Response Equipment and Procedures**

#### **Equipment:**

Provide a current list of available emergency response equipment including its location (Part III) and a physical description. Please include the following items if you have them:

- Communication equipment (phones, radio, etc.)
- Spill containment and control
- Protective clothing and respirators
- Containers for spilled materials
- Ventilation equipment
- First Aid kits
- Fire fighting equipment

#### **Procedures:**

Provide a detailed outline of procedures to be followed in responding to a spill at your facility. Your procedure should include the following:

- Notification of facility personnel responsible for responding to spills.
- Chain of command for spill response.
- Evacuation procedure and notification.
- Spill assessment and response procedure.
- Notification of emergency response agencies. Include a copy of your emergency call list and a copy of any in-house spill reporting form.
- Notification (if applicable) of emergency spill contract cleanup company.
- Procedures isolating spilled material from drains, incompatible materials, etc.
- Procedures for notifying your neighbors of a potential hazard.
- Procedures for disposal or treatment of spilled materials.

**PART VI**

Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

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Signature

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Date

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Printed Name

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Title

## CITY OF TEMPE ENVIRONMENTAL SERVICES SECTION

### How to Develop an Accidental Discharge/Slug Control Plan

1. Take an inventory of your chemical storage using the Hazardous Material Storage Checklist form. During your inventory, look for obvious storage problems such as:
  - A. Incompatible materials stored near each other (i.e., cyanide and acid, fuels and oxidizers, etc.). See enclosed list for more examples.
  - B. Leaking containers
  - C. Drains or spillways near storage
  - D. Stains on floor from past spills
  - E. High people traffic (i.e., walkways, lunchroom, etc.)
  - F. Exposure to sun, rain, high heat, etc.
  - G. Near electrical boxes, moving vehicles, and other hazards
  - H. Poor housekeeping
  - I. Sloping or uneven ground or shelving
  - J. Lack of electrical grounding for drums and drip pans for flammable liquids
  - K. Old, outdated, unused chemicals
  - L. No labels
  - M. Improper/inadequate containers
  - N. Poor, unstable shelving or racks
  - O. Accumulated waste
  - P. Lack of organization
  
2. Collect all the Material Safety Data Sheets (MSDS) for the inventoried storage. If you are missing any, contact your supplier at once (you are required under Federal Law 29 CFR 1910.1200 to have these). This is a good time to segregate old, unlabeled, and unwanted chemicals from your inventory for disposal.
  
3. Carefully read the MSDS forms noting:
  - A. Hazardous ingredients
  - B. Physical data
  - C. Fire and explosive hazards
    1. Flash point
    2. Flammable limits
    3. Vapor pressure
    4. Special data
  - D. Reactive hazards/physical hazards
    1. Incompatibilities
    2. Polymerization
    3. Stability
  - E. Health hazards

1. Exposure limits
  2. First Aid
- F. Special protection
- G. Spill/leak control procedures (This will be the basis for your spill response plans)
4. Evaluate your present storage considering the information from the MSDS forms. To insure you are using the correct storage techniques and are in compliance with storage regulations, the following organizations and regulations may help.
- A. Uniform Fire Code - Article 79 and 80 (1988) Source: Library, Fire Marshall, NFPA (see below)  
Information: Storage of hazardous materials and flammables
- B. National Fire Protection Association (NFPA)  
Battery March Park  
Quincy, Mass, 02269  
Information: Fire Protection Handbook, Industrial Fire Hazard Handbook, National Fire Codes (including Article 79 and 80), and many other subjects.
- C. American Insurance Association  
Engineering and Safety Service  
85 John Street  
New York, NY 10038  
Information: Special interest bulletins on large variety of material available
- D. California Chamber of Commerce  
P.O. Box 1736  
Sacramento, CA 95808 (916) 444-6670  
Information: Hazardous Material Handbook - Guidelines for Compliance (\$25.00), Hazardous Communication Handbook - Guidelines for Compliance (\$30.00), Hazardous Waste Management Handbook - Guidelines for Compliance (\$20.00)  
Note: Although these books were written for California industries, they also contain federal regulations plus many good industry practices.
- E. Federal Government Bookstore  
450 Golden Gate Avenue  
San Francisco, CA 94102 (415) 252-5334  
Information: Federal Regulations  
Hazardous Communication Regs: 29 CFR 1900-1910  
RCRA Regulations: 40 CFR 190-399  
Wastewater: 40 CFR 400-424 and 40 CFR 425-699  
Transportation of Hazardous Materials: 49 CFR 100-177  
These will also be found in the City or ASU libraries.
- F. Factory Mutual Engineering and Research

1151 Boston-Providence Turnpike  
Norwood, MASS. 02062  
Information: Pamphlets on many subjects

G. Compressed Gas Association, Inc.  
1235 Jefferson Davis Highway  
Arlington, VA 22202  
Information: Pamphlets on many compressed gases

H. Other useful sources of information are:

1. Your insurance company
2. Your trade association
3. Fire Marshall and Fire Inspectors
4. Industrial Waste Inspectors
5. The chemicals' manufacturer or distributor
6. An independent environmental consultant

5. While chemical storage is the first half of spill protection, proper handling and practices, the second half, is more difficult to control. Guidance information can be found on the MSDS forms. Most manufacturers of chemicals will provide instructions for safe use of their products. The key for success for proper handling and practices of chemicals is training and attitude.

Listed here are some practices that should be made part of your company policy.

- A. Separate and segregate all hazardous materials.
- B. Post proper signs (required under 29 CFR 1910, 1200).
- C. Insure that **NO** hazardous material may enter the sewer system (i.e., plug floor drains, secondary containments, dikes, berms, drip pans under tapped tilted drums, etc.).
- D. Provide some measure of security to prevent unauthorized people from being accidentally exposed to the hazardous material.
- E. Keep hazardous materials in a designated area.
- F. Dispose/recycle all old and unnecessary chemicals, paints, oils, solvents, etc.
- G. Keep only a minimum inventory of hazardous material.
- H. Keep emergency phone list near all telephones.
- I. Designate one person responsible to follow the life cycle and storage of every chemical from the day it comes in to final disposal.
- J. Train employees on safe handling and practices with chemicals.

6. There are two basic types of spill procedures plans. One is dealing with the spill yourself and the other is when you need emergency personnel due to threat to life and the environment. If you handle hazardous materials, you should have contingency plans for both.

To determine whether you can handle a spill or not will depend on several factors. You should carefully evaluate the spill before attempting cleanup operations yourself. Factors include:

- A. Amount of material spilled.
- B. The hazardous properties of the material (toxicity, fire, explosion, corrosive, health effects, etc.).
- C. Physical status of the material (liquid, solid, concentration, density, on fire, fuming).
- D. Location of spill.
- E. The stated spill procedures listed on the MSDS forms and their availability.
- F. The training and experience of your staff.
- G. The proper equipment and its location.
- H. Danger to public health.
- I. Time of day.
- J. Presence of incompatible or reactive materials near the spill area.
- K. Injured workers.
- L. Location of sewer openings and drains.
- M. Weather (rain, high winds, etc.)
- N. Likelihood of material to rapidly spread.

7. For spills you attempt to control yourself, consider these factors.

- A. Employees should know all the hazards the material may present them.
- B. Employees need to be trained and to have already practiced the cleanup of hazardous material. OSHA guidelines state training of 24 hours per year (2 hrs./month) is required for emergency response people.
- C. Disposal of spilled material must be done in accordance with state and federal (RCRA 6A, C, & D) laws.
- D. There are many commercially available spill kits and spill absorbers. They sell at a wide range of prices and are sold by many vendors. Be sure, if you buy one, that it will be able to handle your spill potentials.
- E. Use only non-sparking tools around flammables.
- F. One of the easiest and cheapest ways to temporarily patch a punctured drum or container is to use a roll of duct tape.
- G. If you buy chemical suits or gloves, be sure that all of its components are compatible with the spilled material.
- H. If your spill is not an immediate threat to life or the environment, you may elect to hire a professional hazardous material cleanup company.
- I. You are still required to make all spill notifications to all proper authorities.
- J. Safety is your number one priority - Your's, your staff's, and the general public's.
- K. If the spill enters the sewers (storm or sanitary), contact the City of Tempe Environmental Services Section at 350-2678 as soon as possible. (After business hours, on weekends and holidays, contact the Water Management Control Room at 350-8207.)
- L. Containment of a spill is the first step in controlling it. Methods include: plugging, patching, diking, dams, absorption, containing, covering, and isolation. Do you have ways of doing these?

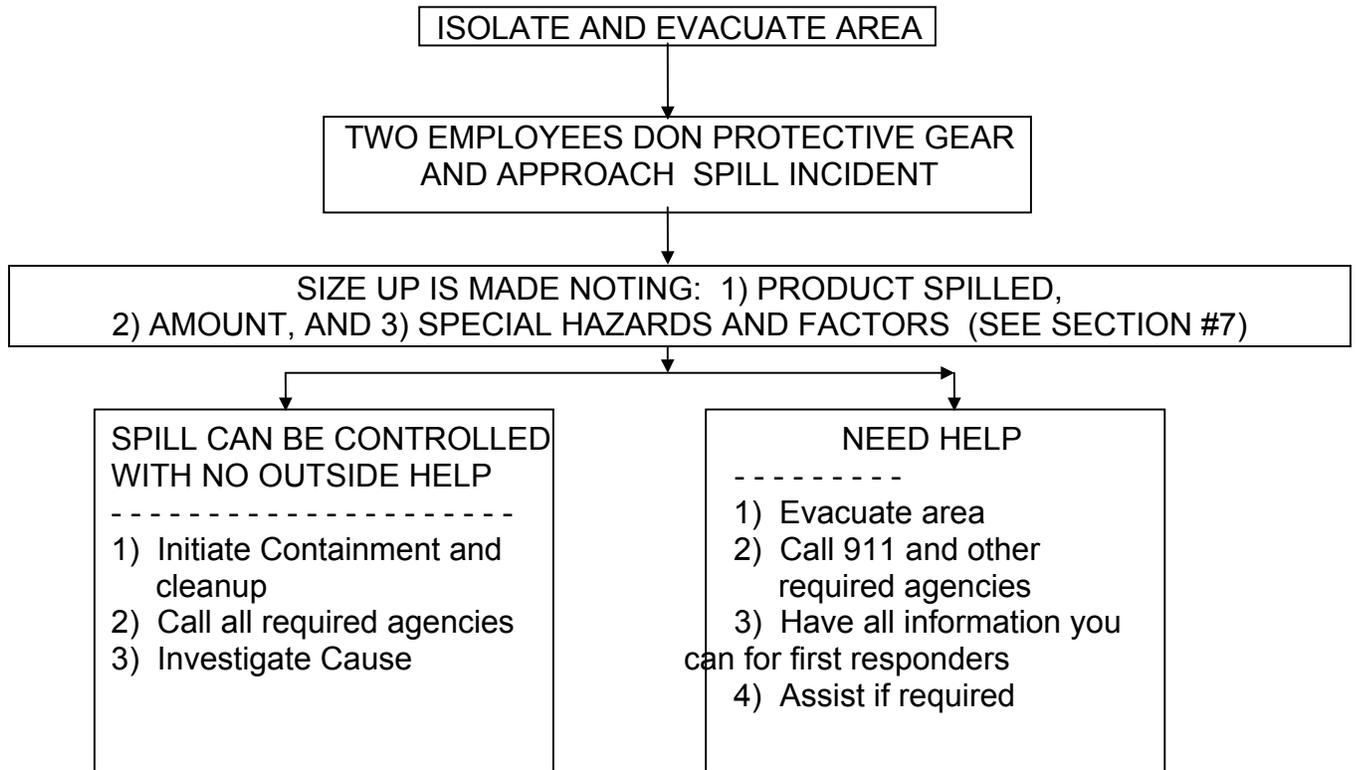
## EXAMPLES OF POTENTIALLY INCOMPATIBLE MATERIALS

Many hazardous materials, when mixed with other waste or materials, can produce effects which are harmful to human health and the environment. Listed below are examples of potentially incompatible materials along with the harmful consequences which result from mixing materials in one group with materials in another group. This list is not intended to be exhaustive. You must analyze each MSDS of your inventory against the other chemicals of your inventory. You should store your chemical inventory by what is and what is not compatible.

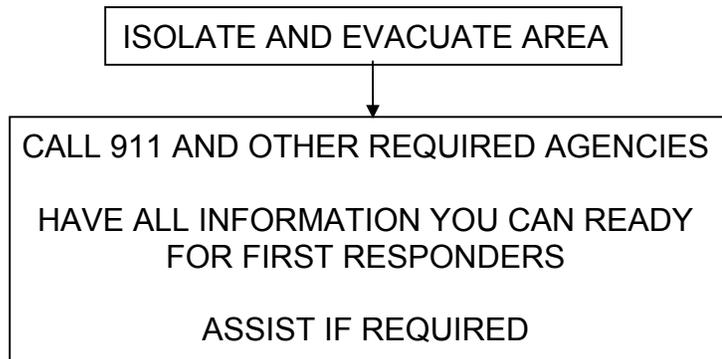
<p style="text-align: center;"><u>1A</u></p> Acetylene Sludge Alkaline Caustic Liquids Alkaline Cleaner Alkaline Corrosive Liquids Alkaline Corrosive Battery Fluid Caustic Wastewater Lime Sludge and other Corrosive Alkalines Lime Wastewater Lime and Water Spent Caustics	<p style="text-align: center;"><u>1B</u></p> Acid Sludge Acid and Water Battery Acid Chemical Cleaners Electrolyte Acid Electrolyte Acid Liquid or Solvent Pickling Liquor and other Corrosive Acids Spent Acids Spent Mixed Acids Spent Sulfuric Acid	<p><u>POTENTIAL CONSEQUENCES</u></p> Heat Generation Violent Reaction
<p style="text-align: center;"><u>2A</u></p> Aluminum Beryllium Calcium Lithium Magnesium Potassium Sodium Zinc Powder Other Reactive Metals and Metal Hydrides	<p style="text-align: center;"><u>2B</u></p> Group 1A Wastes Group 1B Wastes	<p><u>POTENTIAL CONSEQUENCES</u></p> Fire or Explosion Generation of Flammable Hydrogen Gas
<p style="text-align: center;"><u>3A</u></p> Alcohol Water	<p style="text-align: center;"><u>3B</u></p> Concentrated Group 1A Wastes Concentrated Group 1B Wastes Calcium Lithium Metal Hydrides Potassium $\text{SO}_2\text{CL}_2\text{SOCL}_2\text{PCl}_3\text{CH}_3\text{SiCl}_3$ Other Water Reactive Waste	<p><u>POTENTIAL CONSEQUENCES</u></p> Fire or Explosion or Heat Generation Generation of Flammable or Toxic Gases
<p style="text-align: center;"><u>4A</u></p> Alcohols Aldehydes Halogenated Hydrocarbons Nitrated Hydrocarbons Unsaturated Hydrocarbons Other Reactive Organic Compounds and Solvents	<p style="text-align: center;"><u>4B</u></p> Concentrated Group 1A Wastes Concentrated Group 1B Wastes Group 2A Wastes	<p><u>POTENTIAL CONSEQUENCES</u></p> Fire or Explosion Violent Reaction
<p style="text-align: center;"><u>5A</u></p> Spent Cyanide and Sulfide Solutions	<p style="text-align: center;"><u>5B</u></p> Group 1B Wastes	<p><u>POTENTIAL CONSEQUENCES</u></p> Generation of Toxic Hydrogen Cyanide or Hydrogen Sulfide Gas
<p style="text-align: center;"><u>6A</u></p> Chlorates Chlorine Chlorites Chromic Acid Hypochlorite Nitrates Nitric Acid, Fuming Perchlorates Permanganates Peroxides Other Strong Oxidizers	<p style="text-align: center;"><u>6B</u></p> Acetic Acid and Other Organic Acids Concentrated Mixed Acids Group 2A Wastes Group 4A Wastes Other Flammable and Combustible Wastes	<p><u>POTENTIAL CONSEQUENCES</u></p> Fire or Explosion Violent Reaction

## EXAMPLES OF SPILL PLANS

### EXAMPLE #1



### EXAMPLE #2



- **ISOLATE** - ISOLATE SPILL IF POSSIBLE BY SHUTTING OFF SOURCE, CLOSING VALVES OR DOORS, COVERING DRAINS, ETC.
- \* **EVACUATE** - EVACUATE EVERYBODY AND DENY ENTRY INTO THE AREA